My name is Larry Ledlow, Jr., and I seek to enter my formal opposition to RM-10412 in which Mr. Nick Leggett (N3NL) encourages the FCC to impose requirements on manufactured amateur radio equipment to be readily serviceable by operators in the field. While the proposal's stated intent is to serve the purposes of amateur radio, I believe any such regulations could actually hinder the service by limiting functions, features, and performance available in modern, highly integrated electronic equipment. Indeed, the range of available equipment could be significantly reduced, or manufacturers could lose completely any incentive to serve the ham radio community's needs.

The logic behind RM-10412 is based on several fundamentally flawed premises. First, Mr. Leggett confuses the ability to perform equipment repairs in the field with the ability to troubleshoot and replace individual electronic components. Virtually all communications equipment today makes extensive use of surface mount components, advanced integrated circuits (ICs), and multi-layer printed circuit boards. A failure of any one of these elements presents a difficult problem for a technician not well trained or without specialized analytical instruments in a lab.

Equipment design, however, is highly modular; i.e., electronic components are grouped together into larger, self-contained functional units much like a personal computer's architecture. Moderate technical expertise and documentation readily available from manufacturers can guide an operator to troubleshoot equipment to the MODULE level. In most cases, radio manufacturers permit owners to purchase modules or subassemblies, and these can be readily replaced with only slightly more difficulty than, say, a hard drive or CPU on a PC.

In response to many amateur radio operators who desire to build and/or to repair their own equipment, a niche market has been established. Several manufacturers produce excellent quality kits and semi-kits. In fact, the equipment designs from almost all amateur radio manufacturers are already evolving to permit improved levels of customization and ease of upgrades through software changes and module replacement. Little, if any, of these capabilities would be possible without using advanced technologies and dense packaging.

Whether module-level repairs are practicable or not under emergency field conditions is another issue. The typical amateur radio operator may have a few spare parts in a maintenance kit, but in no way can he/she afford to maintain a comprehensive spare module inventory. A far better solution is to have a spare radio at the ready if the operator requires high reliability under difficult working conditions. Modern amateur radio equipment is affordable, portable, and extremely durable, thanks largely to the very designs of which Mr. Leggett is critical.

I view RM-10412 as the equivalent of insisting manufacturers to stop using ICs in equipment so the operator can repair or replace individual transistors. No such engineering-by-regulation approach can possibly serve the interest of the amateur radio service.

Sincerely,

Larry L. Ledlow, Jr. N1TX
ARES Emergency Coordinator
Fairbanks, Alaska